IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Gopinath Chappidi

Appl. No.: 10/708,902   Art Unit: 2876

Date Filed: 03/30/2004   Examiner: WALSH, Daniel I

For: Identifying the Location of an Asset   Attorney Docket No.: H0006030/HON-010

Amendment and Response Under 37 C.F.R. §§ 1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Non-final Office Action mailed 05/02/2006, Applicants submit the following amendments and remarks.

Amendments to the claims are reflected in the listing of claims which begin on page 2 of this paper.

Remarks begin at page number 9 of this paper.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to Deposit Account No.: 20-0674.

Listing of Claims

1   Claim 1 (Currently Amended): A tracking system to track the location of a plurality

2   of assets of interest, said tracking system comprising:

3   a set of asset badges, wherein each of said set of asset badges is attached to a

4   corresponding one of a first set of assets and transmits a corresponding badge identifier;

5   a plurality of intelligent badges, wherein each of said plurality of intelligent badges

6   is attached to a corresponding one of a second set of assets and transmits a corresponding

7   badge identifier, wherein said first set of assets and said second set of assets are comprised

8   in said plurality of assets;

9   each of said plurality of intelligent badges receiving a corresponding one of a plurality

10 of sets of badge identifiers, each of said plurality of intelligent badges sending said

11 corresponding one of a plurality of sets of badge identifiers associated with a badge identifier

12 of the intelligent badge, wherein the badge identifiers in each set are sent together associated

13 with the badge identifier of the intelligent badge even if the badge identifiers in the set are

14 received at different time instances; ~~and~~

15   a processing system receiving and processing said plurality of sets of badge identifiers

16 and corresponding identifiers of said intelligent badges to determine a location of each of said

17 plurality of assets of interest <u>;and</u>

18   <u>a reader receiving each of said plurality of sets of badge identifiers and said associated</u>

19 <u>badge identifier from a corresponding one of said plurality of intelligent badges, said reader</u>

20 <u>sending said plurality of sets of badge identifiers and said associated badge identifiers to said</u>

21 <u>processing system, wherein said reader is associated with a reader zone,</u>

22   <u>wherein each of said asset badges transmits corresponding badge identifier using a</u>

23 <u>first type of signals suited for a first distance range, and each of said plurality of intelligent</u>

24 <u>badges sending said corresponding one of said plurality of sets of badge identifiers associated</u>

25 <u>with said badge identifier of the intelligent badge using a second type of signals suited for a</u>

26 <u>second distance range, wherein said second distance range is more than said first distance</u>

27 <u>range,</u>

28   <u>wherein said reader is located within a distance of said second distance range from</u>

29 <u>each of said plurality of intelligent badges.</u>

1   Claim 2: (Canceled)

1   Claim 3 (Currently Amended): The tracking system of claim 1 2, wherein a first set
2   of badge identifiers and a second set of badge identifiers contain at least one common badge
3   identifier, wherein said processing system determines said physical location of a common
4   badge by identifying said at least one common badge identifier, wherein said first set and said
5   second set are received from different intelligent badges and comprised in said plurality of
6   sets of badge identifiers.

1   Claim 4 (Previously Presented): The tracking system of claim 3, further comprising
2   a reference badge positioned at a known location in an area where said plurality of assets are
3   located, wherein said reference badge also transmits a reference badge identifier, wherein a
4   first intelligent badge contained in said plurality of intelligent badges receives said reference
5   badge identifier and sends said reference badge identifier to said processing system via said
6   reader, wherein said processing system determines the physical location of a first intelligent
7   physical zone of said first intelligent badge, and thus the location of each of said plurality of
8   assets relative to said known location.

1   Claim 5 (Original): The tracking system of claim 4, wherein each of said set of asset
2   badges sends the corresponding identifier in both a radio-frequency (RF) signal and an
3   infrared (IR) signal, wherein the identifier encoded in said RF signal is received by said
4   reader and the identifier encoded in said IR signal is received by one or more of said plurality
5   of intelligent badges.

1   Claim 6 (Previously Presented): The tracking system of claim 3, further comprising:
2   a set of component badges, wherein said set of component badges are attached to
3   corresponding one of a fourth set of assets; and
4   a set of active badges, wherein each of said set of active badges is attached to a
5   corresponding one of a third set of assets, wherein said third set of assets and said fourth set
6   of assets are contained in said plurality of assets,

7   wherein a first active badge receives a set of component badge identifiers from said

8   set of component badges, wherein said set of component badge identifiers and a first active

9   badge identifier is sent by said first active badge to a first intelligent badge contained in said

10   plurality of intelligent badges, wherein said first active badge identifier identifies said first

11   active badge and said first active badge is contained in said set of active badges,

12   wherein said processing system receives said first active badge identifier associated

13   with said set of component badge identifiers from said first intelligent badge, said processing

14   system determining the location of said first active badge by treating said first active badge

15   identifier similar to each of said badge identifiers of said asset badges, wherein the

16   approximate location of each of said fourth set of assets is same as the location of said first

17   active badge, wherein said processing system determines the location of said set of

18   component badges with reduced computational complexity.

1   Claim 7 (Currently Amended): The tracking system of claim 1 2, wherein each of said

2   plurality of sets of badge identifiers comprises the identifier of one of said intelligent badge

3   or said plurality of asset badges.

1   Claim 8 (Currently Amended): The tracking system of claim 1 2, wherein an

2   intelligent badge is attached to each of said plurality of assets of interest such that said

3   relative location is determined with more precision.

1   Claims 9-10 (Canceled)

1   Claim 11 (Currently Amended): A method of tracking the location of a plurality of

2   assets of interest, said method comprising:

3   attaching each of a set of asset badges to a corresponding one of a first set of assets,

4   wherein each of said set of asset badges transmits a corresponding badge identifier;

5   attaching each of a plurality of intelligent badges to a corresponding one of a second

6   set of assets, wherein each of said plurality of intelligent badges also transmits a

7   corresponding badge identifier, wherein said first set of assets and said second set of assets

8   are comprised in said plurality of assets;

9   receiving each of a plurality of sets of badge identifiers in a corresponding one of said

10   plurality of intelligent badges;

11   transmitting from each intelligent badge a corresponding one of said plurality of sets

12   of badge identifiers along with a badge identifier of the intelligent badge, wherein the badge

13   identifiers in each set are sent together associated with the badge identifier of the intelligent

14   badge even if the badge identifiers in the set are received at different time instances, wherein

15   each of said asset badges transmits said corresponding badge identifier using a first type of

16   signals suited for a first distance range, and each of said plurality of intelligent badges

17   sending said corresponding one of said plurality of sets of badge identifiers along with a

18   badge identifier of the intelligent badge using a second type of signals suited for a second

19   distance range, wherein said second distance range is more than said first distance range; and

20   receiving in a reader each of said plurality of sets of badge identifiers and said

21   associated badge identifier from a corresponding one of said plurality of intelligent badges,

22   wherein said reader sends said plurality of set of badge identifier to a processing system,

23   wherein said reader is located within a distance of said second distance range from each of

24   said plurality of intelligent badges, wherein said reader is associated with a reader zone ; and

25   processing in said a processing system said plurality of sets of badge identifiers and

26   corresponding identifiers of said intelligent badges to determine a location of each of said

27   plurality of assets of interest.

1   Claim 12 (Previously Presented): The method of claim 11, wherein a first set of badge

2   identifiers and a second set of badge identifiers contain at least one common badge identifier,

3   wherein said processing determines said physical location by identifying said at least one

4   common badge identifier, wherein said first set and said second set are received from

5   different intelligent badges and comprised in said plurality of sets of badge identifiers.

1   Claim 13 (Previously Presented): The method of claim 12, further comprising

2   positioning a reference badge at a known location in an area where said plurality of assets are

3   located, wherein said reference badge also transmits a reference badge identifier, wherein a

4   first intelligent badge contained in said plurality of intelligent badges receives said reference

5   badge identifier and sends said reference badge identifier, wherein said processing determines

6   the physical location of each of said plurality of assets relative to said known location.

1   Claim 14 (Previously Presented): The method of claim 11, further comprising:

2   attaching each of a set of component badges to a corresponding one of a fourth set of

3   assets; and

4   a set of active badges, wherein each of said set of active badges is attached to a

5   corresponding one of a third set of assets, wherein said third set of assets and said fourth set

6   of assets are contained in said plurality of assets,

7   wherein a first active badge receives a set of component badge identifiers from said

8   set of component badges, wherein said set of component badge identifiers and a first active

9   badge identifier is sent by said first active badge to a first intelligent badge contained in said

10   plurality of intelligent badges, wherein said first active badge identifier identifies said first

11   active badge and said first active badge is contained in said set of active badges,

12   wherein said processing system receives said first active badge identifier associated

13   with said set of component badge identifiers from said first intelligent badge, said processing

14   system determining the location of said first active badge by treating said first active badge

15   identifier similar to each of said badge identifiers of said asset badges, wherein the

16   approximate location of each of said fourth set of assets is same as the location of said first

17   active badge, wherein said processing system determines the location of said set of

18   component badges with reduced computational complexity.

1   Claim 15 :(Canceled)

1   Claim 16 (Currently Amended): The tracking system of claim 1, wherein each of said

2   plurality of intelligent badges is associated with a corresponding intelligent physical zone,

3   the set of badge identifiers received by an intelligent badge corresponding to asset badges

4   located in the intelligent physical zone of the intelligent badge, wherein a physical location

5   of each of said set of badges is determined as being in one or more of said intelligent physical

6   zones by said processing of said processing system~ ,said reader zone containing said

7   intelligent physical zones.

1   Claim 17 : (Canceled)

1   Claim 18 (Currently Amended): The method of claim 11, wherein each of said

2   plurality of intelligent badges is associated with a corresponding intelligent physical zone,

3   the set of badge identifiers received by an intelligent badge corresponding to asset badges

4   located in the intelligent physical zone of the intelligent badge, wherein a physical location

5   of each of said set of badges is determined as being in one or more of said intelligent physical

6   zones by said processing of said processing system~ ,said reader zone containing said

7   intelligent physical zones.

1   Claim 19 : (Canceled)

1   Claim 20 (New): A method of tracking the location of a plurality of assets of interest,

2   said method comprising:

3   attaching each of a set of asset badges to a corresponding one of a first set of assets,

4   wherein each of said set of asset badges transmits a corresponding badge identifier;

5   attaching each of a plurality of intelligent badges to a corresponding one of a second

6   set of assets, wherein each of said plurality of intelligent badges also transmits a

7   corresponding badge identifier, wherein said first set of assets and said second set of assets

8   are comprised in said plurality of assets;

9   receiving each of a plurality of sets of badge identifiers in a corresponding one of said

10   plurality of intelligent badges;

11   transmitting from each intelligent badge a corresponding one of said plurality of sets

12   of badge identifiers along with a badge identifier of the intelligent badge, wherein the badge

13   identifiers in each set are sent together associated with the badge identifier of the intelligent

14   badge even if the badge identifiers in the set are received at different time instances;

15   said transmitting being performed without requiring a request to transmit from any

16   external systems; and

17   processing in a processing system said plurality of sets of badge identifiers and

18   corresponding identifiers of said intelligent badges to determine a location of each of said

19   plurality of assets of interest.

1   21(New): The method of claim 20, wherein a reader receives each of said plurality of

2   sets of badge identifiers and associated badge identifier from a corresponding one of said

3   plurality of intelligent badges, said reader sending said plurality of set of badge identifiers

4   and associated badge identifier to said processing system,

5   wherein each of said asset badges transmits corresponding badge identifier using a

6   first type of signals suited for a first distance range, and each of said plurality of intelligent

7   badges sending said corresponding one of said plurality of sets of badge identifiers associated

8   with said badge identifier of the intelligent badge using a second type of signals suited for a

9   second distance range, wherein said second distance range is more than said first distance

10   range, and

11   wherein said reader is located within a distance of said second distance range from

12   each of said plurality of intelligent badges.

1   22 (New): The method of claim 21, wherein each of said asset badges also transmits

2   without requiring a request to transmit from any external systems.

1   23 (New): The method of claim 21, wherein said external systems contain said reader.

REMARKS

Claims 1-19 were examined in the outstanding office action mailed on 05/02/2006 (hereafter "Outstanding Office Action"). Applicants note with appreciation that claims 6, 14,

5   17 and19 were indicated to be allowable. The remaining claims were rejected.

By virtue of this response, claims 1, 3, 7, 8, 11, 16 and 18 are sought to be amended, claims 2, 9-10, 15, 17 and 19 are sought to be canceled, and new claims 20-23 are sought to be added. The amendments, cancellations and additions are believed not to introduce new subject matter, and their entry is respectfully requested. The amendments, cancellations and

10   additions are made without prejudice or disclaimer. Claims 1, 3, 4-8, 11-14, 16, 18, and 20-23 are thus respectfully presented for reconsideration.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 16, 2, 3, 4, 7-13, 15 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Application 2004/0212480 naming as inventor

15   Carrender *et al* (hereafter "Carrender") in view of US Patent application 2003/0137968 naming as inventor Lareau *et al* (hereafter "Lareau").

Independent claim 1 has been amended to at least substantially include the features of previously allowed claim 17 and previously presented intervening claim 2, and is thus believed to be allowable.

20   Independent claim 11 is believed to be allowable for similar reasons. Claims depending from currently amended independent claims 1 and 11 are also believed to be allowable at least as depending from an allowable base claim.

New independent claim 20 recites "... transmitting from each intelligent badge a corresponding one of said plurality of sets of badge identifiers along with a badge identifier

25   of the intelligent badge, wherein the badge identifiers in each set are sent together associated with the badge identifier of the intelligent badge even if the badge identifiers in the set are

received at different time instances; *__said transmitting being performed without requiring__*

__a request to transmit from any external systems__..." (*__Emphasis Added__*).

        Neither Carrender nor Lareau appears to recite such a feature. Instead, both Carrender

and Lareau appear to require a request for transmission of identifiers from an "external

5   system" (a remote monitoring station in Lareau, and interrogator/ reader in Carrender), with

individual tags coupled to assets responding to such request by transmitting an identifier.

        Thus, new independent claim 20 is believed to be allowable over the art of record.

New dependent claims 21-23 are allowable at least as depending from allowable base claim

10   20.

        Thus, all the objections and rejections are believed to be overcome and the application

is believed to be in condition for allowance. The Examiner is invited to telephone the

undersigned representative at 707.356.4172 if it is believed that an interview might be useful

for any reason.

                                Respectfully submitted,

                                /Narendra Reddy Thappeta/
                                        Signature
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